

---

## A New Species of *Dyckia* (Bromeliaceae) from Rio de Janeiro State, Brazil

Rafaela Campostrini Forzza and Bruno Rezende Silva

Jardim Botânico do Rio de Janeiro (JBRJ), Rua Pacheco Leão 915, CEP 22460-030, Rio de Janeiro, Brasil. rafaela@jbrj.gov.br; brsilva@jbrj.gov.br

---

**ABSTRACT.** A new seaside endemic species, *Dyckia martinellii* B. R. Silva & Forzza, from Rio de Janeiro State, Brazil, is described and illustrated. The genus was represented in this state only by *D. pseudococcinea* L. B. Smith, from which *D. martinellii* can be distinguished by a rosette with a larger diameter; longer and wider leaves bearing straight, patent-antrorse larger spines; basal scape bracts densely arranged, with the others longer than or equaling the internodes; floral bracts castaneous, entire, white-lepidote; and sepals orange with a castaneous apex.

**RESUMO.** Uma nova espécie endêmica do litoral, *Dyckia martinellii* B. R. Silva & Forzza, do estado do Rio de Janeiro, Brasil é descrita e ilustrada. O gênero estava representado neste estado apenas por *D. pseudococcinea* L. B. Smith da qual *D. martinellii* pode ser diferenciada pela roseta de maior diâmetro; pelas folhas maiores e mais largas, espinhos patente-antrorsos maiores; pelas brácteas basais do escapo congestionadas as demais maiores ou igualando os entrenós; brácteas florais castanhas, inteiras, alvo-lepidotas e pelas sépalas laranja com ápice castanho.

**Key words:** Brazil, Bromeliaceae, *Dyckia*, Pitcairnioideae, Rio de Janeiro state.

*Dyckia* Schultes & Schultes f., with ca. 200 species, is among the largest genera in Bromeliaceae subfamily Pitcairnioideae and the one with greatest diversity in Brazil, where approximately 80% of the species occur (Forzza, 2001). The members of this genus have an exclusively South American distribution, with diversity centers in southern Brazil within the cerrado and campos rupestres formations (Forzza, 2001). According to a phylogenetic analysis based on morphological characters, the genus *Dyckia* is monophyletic (excluding *D. biflora* Mez; Forzza, 2004). This is supported by four synapomorphies: an axial inflorescence; the scape bracts different from leaves; presence of nectaries on the sepals; and a petal-staminal ring (Forzza, 2001).

***Dyckia martinellii*** B. R. Silva & Forzza, sp. nov.

**TYPE:** Brazil. Rio de Janeiro: Mun. Paraty, Paratymirim, costões rochosos entre Paratymirim e Saco do Mamanguá, 5 m elev., 27 Sep. 1990 (fl), G. Martinelli 14413 (holotype, RB). Figure 1.

Species nova *Dyckiae pseudococcineae* affinis, sed rosula foliorum circa 60 cm diam., foliis longioribus, latioribusque, spinis rectis vel patente-antrorsis et majoribus, bracteis scapalibus infernis foliis similibus, dense dispositis, supernis longioribus vel rare internodia aequantibus, bracteis floriferis castaneis, integris et albo-lepidotis, sepalis aurantiaceis apice brunneis differt; *D. encholirioidi* similis, sed propagulis basalibus brevioribus, rosula foliorum brevioris, foliis brevioribus angustioribusque, floribus per anthesim patentibus, bracteis floriferis integris et albo-lepidotis, sepalis albo-lepidotis, aurantiaceis apice brunneis, petalis obtrullatis, aurantiaceis differt.

Plant rupicolous, flowering 70–100 cm high, propagating by stout basal shoots; rosettes ca. 60 cm diam. Leaves suberect-arcuate; sheaths elliptic, 2.5–3 × 5–6 cm, castaneous abaxially, whitish adaxially, margin entire except for a few evanescent spines in the transition to the blade; leaf blades 20–35 × 2.2–2.6 cm, lanceolate, apex attenuate, whitish abaxially, light green adaxially, margins spinose, spines straight, patent-antrorse, 3–4 mm long, 1–1.5 cm apart, light green with a castaneous apex. Scape erect, 55–97 cm long, 0.7–10 mm diam., green, sparsely white lepidote; scape bracts the basal ones subfoliaceous, densely arranged, spinulose, 11–12.5 × 0.9–1.2 mm, erect, chartaceous, sparsely lepidote; the upper ones exceeding to rarely equaling the internodes, lanceolate, chartaceous, stramineous, glabrous to sparsely lepidote, clasping the scape, apex attenuate, margins spinulose to inconspicuously serrulate; inflorescence simple, racemose, 30–43 cm long, laxly flowered, 38- to 65-flowered, rachis orange, sparsely lepidote, straight; floral bracts elliptic to elliptic-attenuate, acuminate, exceeding to equaling the middle of the sepals, 4–12 × 3–6 mm, castaneous, entire, white-lepidote. Flowers patent at anthesis, becoming suberect afterward, pedicellate, pedicels cylindrical, 1–2 mm long, orange, sparsely lepidote, reaching 4

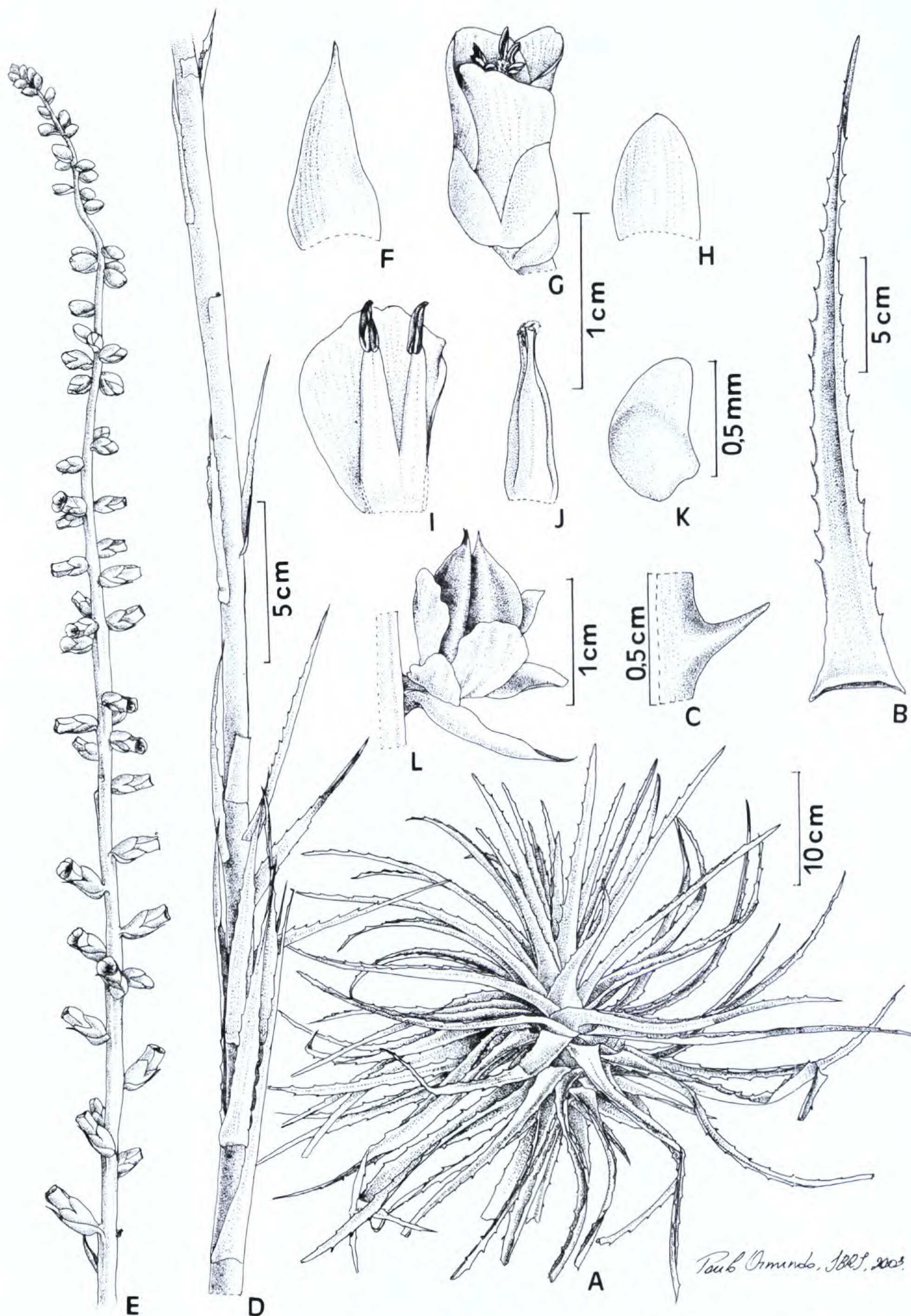


Figure 1. *Dyckia martinelli* B. R. Silva & Forzza. —A. Habit. —B. Leaf. —C. Spine. —D. Scape base. —E. Inflorescence. —F. Floral bract. —G. Flower. —H. Sepal. —I. Petal and stamens. —J. Gynoeceum. —K. Ovule. —L. Capsule. Drawings based on R. C. Forzza et al. 2386 (A–C), G. Martinelli 14413 (D–K), B. R. Silva 961 (L).

mm long in fructification; sepals ovate, apex rounded, 7–9 × 4–6 mm, white-lepidote, orange with a castaneous apex; petals orange, obtrullate, glabrous, apex emarginate, erect at anthesis, 9–12 ×

9 mm; stamens included; filament connate for 3.5 mm, adnate to petal for 2.5 mm; anthers slightly sagittate at base, attenuate and reflexed at apex, ca. 3 mm long; ovary 7 mm long, ovule alate, ca. 0.7

Table 1. Comparison of *Dyckia encholirioides*, *D. martinellii*, and *D. pseudococcinea*.

	<i>D. encholirioides</i>	<i>D. martinellii</i>	<i>D. pseudococcinea</i>
Vegetative propagation	rhizomatous	basal shoots	basal shoots
Rosette diameter (cm)	ca. 100	ca. 60	ca. 40
Foliar blades (cm)	30–100 × 2.5–4	20–35 × 2.2–2.6	20–30 × 1–1.8
Foliar spines (mm)	antrorse, curved, 5–7	patent-antrorse, straight, 3–4	retorse, curved, 1.5–2
Basal scape bracts	subfoliaceous, densely arranged, spinulose	subfoliaceous, densely arranged, spinulose	not foliaceous, sparse, inconspicuously serrulate
Scape bracts	longer than to rarely equaling the internodes	longer than to rarely equaling the internodes	much shorter than internodes
Anthesal flower position	reflexed	patent	patent
Floral bracts	ferruginous-lanate, serrulate	white-lepidote, entire	reddish, serrulate
Sepals	ferruginous-lanate	orange with castaneous apex, white-lepidote	reddish, glabrous
Petals	yellow, unguiculate	orange, obtrullate	orange, obtrullate

mm long. Fruits ca. 15 mm long; seeds alate, ca. 3 mm long.

*Dyckia martinellii* presents morphological affinities both toward *D. pseudococcinea* and *D. encholirioides* (Gaudichaud-Beaupré) Mez (Table 1), these being the only three species known from coastal southeastern Brazil.

Although the southern states of Rio Grande do Sul, Santa Catarina, and Paraná possess many *Dyckia* species, including seaside endemics, only one species was known from the southeastern State of Rio de Janeiro, *D. pseudococcinea*. São Paulo, another southeastern state of Brazil, is also relatively poor in seaside species: only *D. encholirioides* is known at present, with Ilha do Cardoso being its northern limit of distribution.

The new species was found growing on granite outcrops, from 3 to 10 m above the high tide line, the rocks often being washed by rainwater. By comparison, *Dyckia pseudococcinea* is a restricted endemic from an area of periodically inundated Ericaceae restinga in the municipality of Maricá, Rio de Janeiro State. The specimen cited by Smith and Downs (1974) as originating in Atibaia, São Paulo, actually belongs to another species, *D. tuberosa* (Vellozo) Beer. The less selective *D. encholirioides* occurs on rocks or sand along the coast from Rio Grande do Sul to São Paulo, a completely subtropical distribution (Smith & Downs, 1974).

This new taxon has only been collected from a population on a granite outcrop with an inclination angle of ca. 45°. The outcrop occupies an area of approximately one hectare and is densely vegetated with *Vellozia candida* Mikan, *Alcantarea edmundoi*

(Leme) J. R. Grant, *Vriesea neoglutinoso* Mez, *Cattleya intermedia* Graham ex Hooker, *Cyrtopodium polyphyllum* (Vellozo) L. C. Menezes, *Cereus*, *Tibouchina*, and *Pitcairnia*. Well represented here, *Dyckia martinellii* grows mainly in the shade of the shrubs, the deepest shade being the place where the largest specimens were found. This fact may explain its late discovery since it renders the specimens almost invisible from passing boats, the only means of transportation to the site. Many other seaside outcrops with similar characteristics exist in the region of Paraty and the nearby Ubatuba in São Paulo and should be surveyed to establish the species' biological range.

*Paratypes.* BRAZIL. **Rio de Janeiro:** Mun. Paraty, Paratymirim, costões rochosos entre Paratymirim e Mamanguá, 5 m elev., 30 May 1990 (fr), *G. Martinelli 12089* (RB); 23°14'06"S, 44°37'62"W, 17 Nov. 2002, fl cult. Dec. 2002, *B. R. Silva 961* (RB), 5 Feb. 2003 (fr), *R. C. Forzza 2386*, *B. R. Silva & E. Borges* (MO, RB).

*Acknowledgments.* The authors are grateful to Elton Leme and Claudio Nicoletti de Fraga for corrections and critical comments, and to Paulo Ormino for preparing the illustration.

#### Literature Cited

- Forzza, R. C. 2001. Filogenia da tribo Puyeeae Wittm. e revisão taxonômica do gênero *Encholirium* Mart. ex Schult. & Schult. f. (Pitcairnioideae–Bromeliaceae). Tese de Doutorado, Instituto de Biociências, Universidade de São Paulo, São Paulo.
- . 2004 (in press). Revisão taxonômica de *Encholirium* Mart. ex Schult. & Schult. f. (Pitcairnioideae–Bromeliaceae). Bol. Bot. Univ. São Paulo.
- Smith, L. B. & R. J. Downs. 1974. Bromeliaceae (Pitcairnioideae). Fl. Neotrop. Monogr. 14(1): 1–662. Hafner Press, New York.